



Dart Hawkesbury  
1270 Aberdeen St  
Hawkesbury, ON K6A 1K7 Canada  
Tel (613) 632-5200  
Fax 613 632-5246

# Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name
PO041320	MES002-VC	1	1	Net 60	M17-4-H900-R2.250	17-4 SS Round Bar 2.250 Dia. : MATERIAL: 17-4 PH CONDITION H900 MATERIAL: I7400 / TYPE I7400 / TYPE 630 SS ROUND BAR GRAIN MUST BE ALONG LENGTH OF BAR MINIMUM YIELD STRENGTH PER TABLE MINIMUM ULTIMATE STRENGTH PER TABLE SPECIFICATION: AMS 5643 OR ASTM A564 H900 MIN. YIELD TENSILE 170 KSI / MIN. ULTIMATE TENSILE 190 KSI				12	10/29/2018	12		S124008	Stock	10/31/2018	\$ 138.35 / ft	1		\$1,707.24	Metaux Solutions
										<b>Total:</b>		<b>12</b>								<b>\$1,301.61</b>	

Plex 11/1/2018 4:51 PM dart.Tollis.Andrew



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# **PURCHASE ORDER** **PO041320**

**Supplier:** MES002-VC  
Metaux Solutions  
2625 boul Jacques-Cartier Est  
Longueuil  
QC  
J4N 1L7 Canada  
Phone: 800 558 8858  
Fax: 514 633 8044

**PO No:** PO041320

**PO Date:** 10/11/18

**Due Date:** 10/29/18

**Purchase Order**

**Revision:**

**Revision Date:**

**Ship-To Contact:** Lavoie, Chantal  
clavoie@dartaero.com

**E-MAILED**

OCT 11 2018

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**Via:** Ground

**Pynt Terms:** Net 60

**Freight Terms:**

**Special Comments:** bid 29359

## Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1		M17-4-H900-R2.250		17-4 SS Round Bar 2.250 Dia. : MATERIAL: 17-4 PH CONDITION H900  MATERIAL: 17-4 PH / S 17400 / TYPE 630 SS ROUND BAR GRAIN MUST BE ALONG LENGTH OF BAR MINIMUM YIELD STRENGTH PER TABLE MINIMUM ULTIMATE STRENGTH PER TABLE SPECIFICATION: AMS 5643 OR ASTM A564  H900 MIN. YIELD TENSILE 170 KSI / MIN. ULTIMATE TENSILE 190 KSI	Firmed	-	10/29/18	12 ft	0 ft	12 ft	\$138.35/ft	\$1,660.20

**Grand Total:** \$1,660.20

*Handwritten signature and initials*



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

## PURCHASE ORDER PO041320

### Order Notes

#### Procurement Quality Clauses

A005 right of entry  
A012 chemical and physical test report  
A016 personnel qualification  
A017 raw material identification (as applicable)  
A026 certification of material conformance  
A041 quality management system  
A042 dart notification by supplier  
A043 retention of quality documents  
  
A048 counterfeit parts avoidance, detection, mitigation and disposition program  
  
A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Plex 10/11/18 11:30 AM dart.lavoie.chantal

METAUX SOLUTIONS INC  
2625 BOUL JACQUES CARTIER EST  
LONGUEUIL, QUEBEC  
J4N 1L7 *Tel.* : 450 641-3330

Bid 03/10/2018 29359

*Sales Rep.* : JEROME PRIMEAU  
*Reference* : chantal  
*Expiration Date* : 01/01/2019

*Customer* : 6323336

DART AEROSPACE LTD  
1270, ABERDEEN STREET  
HAWKESBURY, ONTARIO  
K6A 1K7

*Ship To* :

Same

*Tel.* : 1 613 632-3336

Item No.	Description	Qty	Price	Total	Tx
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N				
<del>MR21441H</del>	<del>4140 HTSR ROU 2.250 DIA 1 x 72" ht;</del>	<del>6</del>	<del>51.30</del>	<del>307.80</del>	<del>A</del>
<del>MR341H</del>	<del>4140 HTSR ROU 3.000 DIA 1 x 48" ht;</del>	<del>4</del>	<del>61.50</del>	<del>246.00</del>	<del>A</del>
<del>MR31441H</del>	<del>4140 HTSR ROU 3.250 DIA 1 x 48" ht;</del>	<del>4</del>	<del>102.25</del>	<del>409.00</del>	<del>A</del>
<del>MR541H</del>	<del>4140 HTSR ROU 5.000 DIA 1 x 48" ht;</del>	<del>4</del>	<del>174.50</del>	<del>698.00</del>	<del>A</del>
SR214174	STAIN ROND 2.250" X 17-4-PH cond. h900 1 x 12' r/l ht;	12	138.35	1 660.20	A
<del>SR112174</del>	<del>17-4PH ROU 1.500 DIA cond. 1 x 12' r/l ht;</del>	<del>12</del>	<del>62.75</del>	<del>753.00</del>	<del>A</del>
<del>SF122124</del>	<del>304 FLA 500 X 2.500 1 x 12' r/l ht;</del>	<del>12</del>	<del>29.90</del>	<del>358.80</del>	<del>A</del>
<del>ASQ114</del>	<del>ALU SQU 1.250 6061-T6 1 x 12" ht;</del>	<del>12</del>	<del>8.75</del>	<del>105.00</del>	<del>A</del>
<del>AF112</del>	<del>ALU FLA 1.000 X 12.00 6061-T6</del>	<del>12</del>	<del>69.40</del>	<del>832.80</del>	<del>A</del>

\*\*\* Continued on Next Page \*\*\*

METAUX SOLUTIONS INC  
 2625 BOUL JACQUES CARTIER EST  
 LONGUEUIL, QUEBEC  
 J4N 1L7 **Tel. : 450 641-3330**

Bid 03/10/2018 29359

**Sales Rep.** : JEROME PRIMEAU  
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**Customer :** 6323336

DART AEROSPACE LTD  
 1270, ABERDEEN STREET  
 HAWKESBURY, ONTARIO  
 K6A 1K7

**Ship To :**

Same

**Tel. :** 1 613 632-3336

Item No.	Description	Qty	Price	Total	Tx
	1 x 12'				
	ht;				
AP3875	ALU PLATE .375" 7075-T6 4 x 6.00" x 72.00" offer 72.00" lg cut in plate ht: 10/12 jours 17-4 2.25" dia. le reste 5/7 jours	4	297.00	1 188.00	A

	<b>COPY</b>	<b>Subtotal</b>	6 558.60
A) Regist :		HST :	852.62
		<b>Total :</b>	7 411.22



## Shipping Order

29/10/2018

METAUX SOLUTIONS INC  
2625 BOUL JACQUES CARTIER EST  
LONGUEUIL, QUEBEC  
J4N 1L7  
**Tel. : 450 641-3330**

**Order** : 138814  
**Reference** : 41320  
**Ship** : PICK UP / PICK UP

**Customer :** 6323336**Ship To**

DART AEROSPACE LTD  
1270, ABERDEEN STREET  
HAWKESBURY, ONTARIO  
K6A 1K7

Same

**Tel. :** 1 613 632-3336

Item No.	Description	Qty	Qty. Delivered	B/O Qty
SR214174	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N STAIN ROND 2.250" X (17-4) PH COND H900 1 X 12.33' R/L HT. 9SJ0048-G60	12.33	12.33	Ø

LIVRE  
JP

**Ref. :** \_\_\_\_\_**Shipping :** \_\_\_\_\_  
**Package No :** \_\_\_\_\_**Merchandise Received:** \_\_\_\_\_



# GLORIA MATERIAL TECHNOLOGY CORP. INSPECTION CERTIFICATE



Messrs:  
Order No.:  
File No.:  
Grade: 17-4 ANN  
Size: 2-1/4"  
Heat-Lot No.: 9SJ0048-G60  
Condition: HR-Solution Annealed-Ground

P.O.No.:  
Date: 06/19/2018  
Weight: 1216KG 2680.82LB  
P'cs: 16

## Chemical Composition (wt%)

	C	Si	Mn	P	S	Ni	Cr
Min.							
Max.	0.07	1.00	1.00	0.040	0.030	3.00	15.00
Result	0.01	0.37	0.58	0.019	0.001	4.73	15.31

	Mo	Cu	Nb+Ta	Nb
Min.		3.00	0.15	5C
Max.	0.50	5.00	0.45	0.45
Result	0.16	3.34	0.25	0.24

## Mechanical Properties Spec.

	Hardness	Grain Size	Delta-Ferrite
		ASTM E112	AMS 2315
Spec. Min.	1/2R	T	L
Spec. Max.	363HBW		5%
Result	301HBW	7	0.3%

## H900 Hardness (Ave)

Spec. Min.	1/2R L
Spec. Max.	40HRC
Result	44HRC

## Macro Etching

	MACRO ETCH	MACRO ETCH
	ASTM E340	ASTM E340
Spec.	B	T
Result	OK	OK



Heat Treating  
Material Testing Laboratory  
Nondestructive Testing

Mars Wang  
Quality Manager  
*Mars Wang*

Page 1 of 3

Our quality and environment management systems have been certified by AS9100, ISO9001 QMS, ISO14001 EMS, OHSAS18001 OHS, and NADCAP. We hereby certify that the material described herein has been manufactured and tested with satisfactory results in accordance with the requirement of the above material specification. Inspection Certificate comply with EN 10204 3.1.



台灣台南市新營區新中路35號/NO.35, HSIN CHUNG RD., HSIN YING, TAINAN, TAIWAN  
TEL: 886-6-6520031 / FAX: 886-6-6230877  
<http://www.gmtc.com.tw>



# GLORIA MATERIAL TECHNOLOGY CORP. INSPECTION CERTIFICATE



Messrs:  
Order No.:  
File No.:  
Grade: 17-4 ANN  
Size: 2-1/4"  
Heat-Lot No.: 9SJ0048-G60  
Condition: HR-Solution Annealed-Ground

P.O.No.:  
Date: 06/19/2018  
Weight: 1216KG 2680.82LB  
P'cs: 16

## Tensile Test

	Elongation(A)	Tensile Strength(Rm)	Yield Strength(0.2% Rp)	Reduction of Area(Z)
	1/2R L (Ave)	1/2R L (Ave)	1/2R L (Ave)	1/2R L (Ave)
Unit	%	KSI	KSI	%
Min.	10	190	170	40
Max.				
Result	14	201	180	47

Non-Metallic Inclusions :AMS 2303  
Severity Frequency

Seal

Max.

Result 0 0

REDUCTION RATIO: Min 4.0:1

## Specification:

1. ASTM A564/A564M-13.
2. ASME SA564(2013).
3. AMS 5643U.
4. ASTM A484/A484M-16.
5. AMS 2303F.
6. AMS 2315G.
7. EN 10204 3.1.
8. FIDELITY 17-4PH ROUND BAR REVISION 03/15/13.

## Remark:

1. MANUFACTURING PROCESS: EAF+LHF+VOD, FORGED OR HOT ROLLED.
2. SOLUTION TREATMENT: 1900 +/- 25 DEGREE F FOR 30 MIN/INCH (MINIMUM OF 1/2 HOUR), FAST COOLING TO BELOW 90 DEGREE F.
3. MECHANICAL PROPERTIES TESTED AS PER H900 CONDITION.
4. MATERIAL IS FREE FROM KNOWN CONTACT WITH MERCURY AND RADIUM.



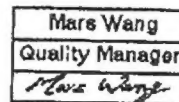
AS 9100  
Aerospace  
Quality



ISO 9001  
Quality



Heat Treating  
Material Testing Laboratory  
Nondestructive Testing



Page 2 of 3

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TEL: 886-6-6520031 / FAX: 886-6-6230877

<http://www.gmtc.com.tw>





GLORIA MATERIAL TECHNOLOGY CORP.  
INSPECTION CERTIFICATE



Messrs:

Order No.:

File No.:

Grade 17-4 ANN

Size: 2-1/4"

Heat-Lot No.: 9SJ0048-G60

Condition: HR-Solution Annealed-Ground

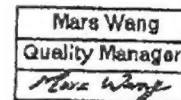
P.O.No.:

Date: 06/19/2018

Weight: 1216KG 2680.82LB

P'cs: 16

5. MATERIAL IS FREE FROM WELDS OR WELDING REPAIRS.
6. MATERIAL IS FREE FROM RESIDUAL RADIOACTIVITY.
7. NO PRODUCT THAT CONTAIN OR WERE MADE WITH ODC'S.
8. ULTRASONIC TEST IS ACCEPTABLE PER ASTM A388.
9. THE MATERIAL IS THE SAME AS AISI 630.
10. COUNTRY OF ORIGIN: TAIWAN.



Page 3 of 3

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台灣台南市新營區新中路35號 / NO.35, HSIN CHUNG RD., HSIN YING, TAINAN, TAIWAN

TEL: 886-6-6520031 / FAX: 886-6-6230877

<http://www.gmtc.com.tw>

# METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

## Certificat de Conformité Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
331265	1

CLIENT / customer 780

METAL SOLUTIONS

2825 BOUL. JACQUES-CARTIER EST

LONGUEUIL

QC J4B 6G6

LIVRÉ À / shipped to:

METAL SOLUTIONS

2825 BOUL. JACQUES-CARTIER EST

LONGUEUIL

QC J4B 6G6

1

COMMANDE DU CLIENT customer po	CLASSIFICATION PIECE part classification	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
45855	N/A	17-4PH		

### SPÉCIFICATIONS DU PROCÉDÉ processing specifications

AGE HARDEN

CONDITION H 900

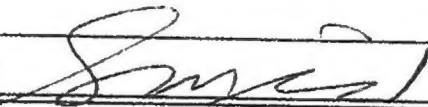
EXIGENCE / requirement	SPÉCIFICATIONS / specified	TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results
HARDNESS	40 - 47 HRC	1 (907)	46 - 47 HRC

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
1	186	PIECES (1) BARRE 144.5" X 2.25"  1 NIL

2/11/18.

### COMMENTAIRES / comments

APPROUVÉ par / Approved by:



DATE: 2018-10-26

APPROUVÉ

SPECIFICATION CONTROL DRAWING

△ PURCHASE MATERIAL: 17-4 PH / S17400 / TYPE 630 SS ROUND BAR  
SPRIN MUST BE ALONG LENGTH OF BAR  
MINIMUM YIELD STRENGTH PER TABLE  
MINIMUM ULTIMATE STRENGTH PER TABLE

△ SPECIFICATION: AMS 5643 OR ASTM A564

△ PART NUMBER: M17-4-|HHHH-|R|X.XXX| WHERE: HHHH SPECIFIES THE MATERIAL CONDITION (PER TABLE BELOW)  
COND O.D. X.XXX = DIAMETER (IN INCHES)

△ MATERIAL CONDITION TABLE:

CODE	CONDITION	MIN YIELD STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)
(OMITTED)	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150
H900	H900	170	190
H925	H925	155	170
H1025	H1025	145	155
H1075	H1075	125	145
H1100	H1100	115	140
H1150	H1150	105	135
CONDA	CONDITION A (SOLUTION TREATED)		

NOTES: MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR  
TENSION OR SHEAR APPLICATIONS IN COLD WEATHER CONDITIONS  
MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR  
APPLICATIONS WHERE STRESS CORROSION CRACKING IS POSSIBLE  
CONDITION A NOT TO BE USED IN DESIGN FOR FINAL PRODUCT AND  
SHOULD ALWAYS BE HEAT TREATED

△ EXAMPLES:

PART NUMBER  
4.000" DIAMETER BAR MIN UTS = 150 KSI, MIN YTS = 100 KSI M17-4-R1000  
2.500" DIAMETER BAR H900 CONDITION M17-4-H900-R2500  
3.250" DIAMETER BAR H1025 CONDITION M17-4-H1025-R3250  
0.750" DIAMETER BAR A CONDITION M17-4-CONDA-R0.750

RELEASED  
2017-10-31  
E(m17-728) QM

APPROVED

C	ADDED MATERIAL CONDITION (CIR17-107)	NO	17.09.14
B	REFORMAT DWG. S17400 TYPE 630 ADDED TO HAWKESBURY MATERIAL (CN 05-1), ADD A564 SPEC (CB-1), REF PAR 064020A	VS	10.05.20
A	NEW ISSUE	CP	05.03.16
REV	DESCRIPTION	BY	DATE
DESIGN	NO		
DRAWN	NO		
CHECKED	CP		
MFG. APPR	RA		
APPROVED	WM		
DE APPR	CP		
DATE	17.09.14		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
REV. C			
DRAWING NO. M17-4-R			
SHEET 1 OF 1			
SCALE			
NTS			
17-4 SS ROUND BAR			
COPYRIGHT © 2005 BY DART AEROSPACE LTD.			
ALL RIGHTS RESERVED. NO PART OF THIS PUBLICATION MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.			

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M17-4-H900-R2-250  
 DATE: 18/11/01

PO / BATCH NO.: P0041320/S129008

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 12.344  
 QUANTITY INSPECTED: 12.344  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 2.250"  
 THICKNESS RECEIVED: 2.250"  
 SHEET SIZE ORDERED: -  
 SHEET SIZE RECEIVED: -

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y N	
CORROSION	Y <input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y N	ASTM A564
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y N	HT: 9550048- G60
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AI</u>	SIGNED OFF BY: _____
DATE: <u>18/11/01</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in